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डोमेस्टिक हैंड ग्राइंडर — विशिष्टि  
( पहला पुनरीक्षण )

**Domestic Hand Grinder —  
Specification**  
( *First Revision* )

ICS 97.040.60

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## FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Utensils, Cutlery and Domestic Hardware Sectional Committee had been approved by the Mechanical Engineering Division Council.

This standard was first published in 1972. The present revision has been taken up to incorporate the modifications found necessary as a result of experience gained on the use of this standard. Also, in this revision, the standard has been brought into the latest style and format of Indian Standard, and references to Indian Standards, wherever applicable have been updated. The BIS certification marking clause has been modified to align with the revised *Bureau of Indian Standards Act*, 2016. The following major modifications have been incorporated in this revision of the standard:

- a) Scope has been modified; and
- b) Provision of new material (stainless steel) has been added.

The relevant SI units and corresponding conversion factors are given below for guidance:

$$\begin{aligned} 1 \text{ kgf/cm}^2 &= 98.066 5 \text{ kPa (kilopascal)} = 10 \text{ m of water column (WC)} \\ &= 0.098 066 5 \text{ MPa (megapascal)} \\ &= 0.980 665 \text{ bar} \\ 1 \text{ Pa} &= 1 \text{ N/m}^2 \end{aligned}$$

The composition of the Committee responsible for the formulation of this standard is given in Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded-off value should be the same as that of the specified value in this standard.

*Indian Standard***DOMESTIC HAND GRINDER — SPECIFICATION***( First Revision )***1 SCOPE**

This standard covers the requirements of domestic hand grinder used for grinding spices and pulses.

**2 REFERENCES**

The standards given below contain provisions, which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreement based on this standard are encouraged to investigate the possibility of applying the most recent editions of these standards:

<i>IS No.</i>	<i>Title</i>
IS 150 : 1950	Specification for ready mixed paint, brushing, finishing, stoving, enamel, colour as required
IS 151 : 2017	Ready mixed paint, spraying, finishing, stoving, enamel for general purposes, colour as required — Specification ( <i>second revision</i> )
IS 210 : 2009	Grey iron castings — Specification ( <i>fifth revision</i> )
IS 1359 : 1992	Electroplated coatings of tin — Specification ( <i>third revision</i> )
IS 2636 : 1972	Specification for wing nuts ( <i>first revision</i> )

**3 CLASSIFICATION**

Based on the size, grinders are classified as large, medium, small, and mini (*see* Fig. 1).

**4 MATERIAL**

**4.1 Grinding Plates** — Malleable cast iron (chilled) and having hardness from 400 HV to 500 HV.

**4.2 Body and other Parts** — Cast iron conforming to IS 210.

**4.3 Screws** — Mild steel

NOTE — The material for components of grinder as mentioned in 4 can also be made of stainless steel conforming to 304 LN or 304 N.

**5 SHAPE AND DIMENSIONS**

Typical size and dimensions of grinder are shown in Fig. 1. The grinder can be of other sizes as per the agreement to between the purchaser and the manufacturer.

**6 WORKMANSHIP AND FINISH**

**6.1** The feed worm shall be concentric with the bore in the machine body. It shall have wider spacing at the hopper side and converge towards the plate end. The feed worm shall be so designed that when it is rotated clockwise the material shall be fed towards the plate end. A ball of 6 mm diameter shall be fixed at the plate end as shown in Fig. 1.

**6.2** The teeth of grinding plates shall be sharp and equally spaced.

**6.3** The threads and serrations, wherever provided, shall be well formed and clean.

**6.4** The various components shall have good workmanship.

**6.5** The casting shall be free from blow holes, pits, cracks and other casting defects.

**6.6** The parts which comes in contact with food (*see* 6.7 for stainless steel) shall be tinned by electroplating or dipping process. If required by the purchaser, the outside of the grinder may be painted with stove enamel paint and the inside by a tin dipping process. The tinning shall be done in accordance IS 1359 and painting shall conform to IS 150 or IS 151.

**6.7** If the grinder is made of stainless steel, the parts coming in contact with food shall be finished smooth and electro-polished.

**7 PERFORMANCE TEST**

A suitable amount of rice shall be fed into the hopper of the machine. The feed worm shall be rotated clockwise. The machine shall grind the rice in the form of a fine powder. While grinding, there shall be no excessive strain on the hands and the machine after this operation shall not show any sign of damage.

## 8 MARKING

Each grinder shall be marked with size, batch no. along with manufacturer's name, initials or recognized trade-mark and the country of origin.

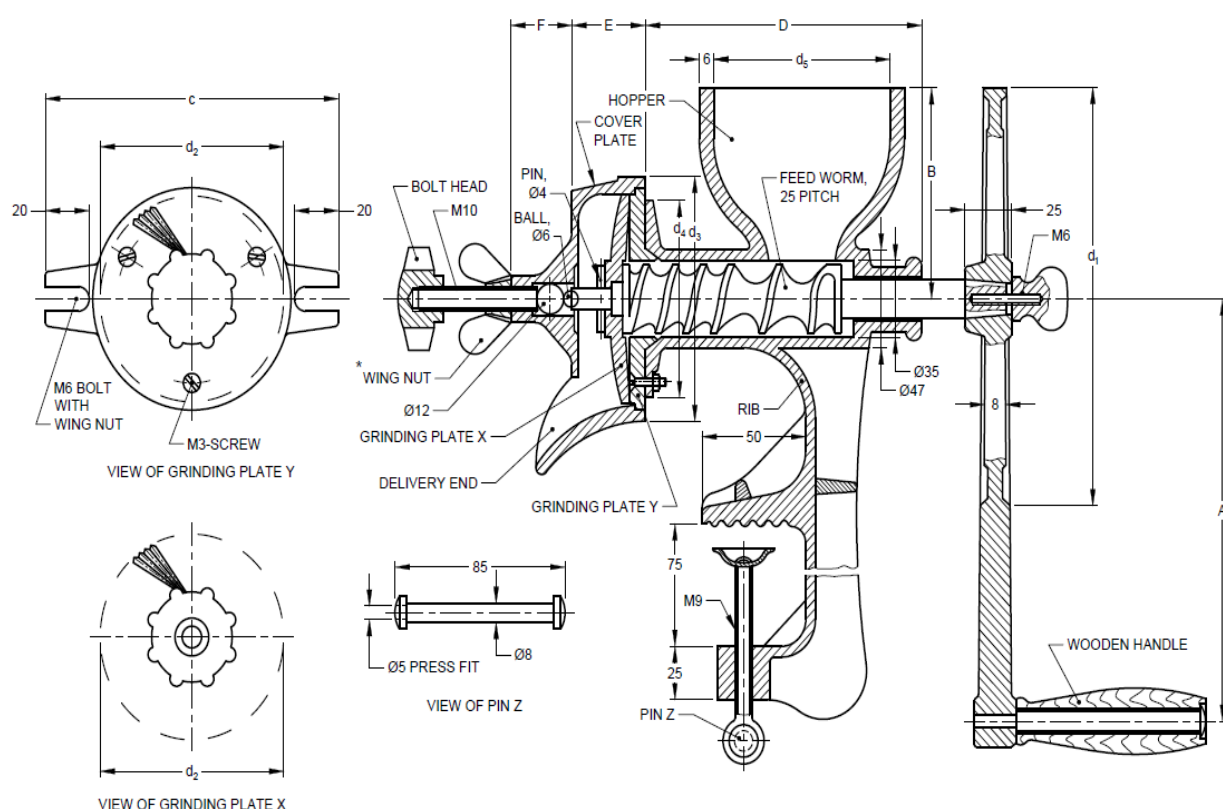
### 8.1 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity

assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the product(s) may be marked with the Standard Mark.

## 9 PACKING

Each grinder shall be suitably packed in a carton with suitable cushioning.



Sl No.	Size	A	B	C	D	E	F	$\varnothing(d_1)$	$\varnothing(d_2)$	$\varnothing(d_3)$
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
i)	Large	205	130	150	130	35	30	180	90	105
ii)	Medium	205	105	145	125	30	25	180	85	100
iii)	Small	180	90	140	125	30	25	180	85	100
iv)	Mini	170	85	135	80	30	25	140	75	90

(see IS 2636 Specification for wing nuts)

All dimensions in millimetres.

FIG. 1 GRINDER, HAND, DOMESTIC

**ANNEX A***(Foreword)***COMMITTEE COMPOSITION**

Utensils, Cutlery and Domestic Hardware Sectional Committee, MED 33

<i>Organization</i>	<i>Representative(s)</i>
In Personal Capacity (A-504, K.G. Chandra Vista, OMR, Opposite to Satyabhama University, Sholinganallur, Chennai - 600119)	SHRI G. SHANMUGANATHAN ( <b>Chairperson</b> )
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Anna Aluminium Company Pvt Ltd, Kizhakkambalam	SHRI K. CHANDRASHEKARAN PILLAI SHRI V. THULASIDHARAN ( <i>Alternate</i> )
Butterfly Gandhimati Appliances Pvt Ltd, Chennai	SHRI K. SHANMUGAVELU SHRI A. BASKAR ( <i>Alternate</i> )
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Delhi Test House, New Delhi	SHRI DINESH GOEL SHRI ROHIT GOEL ( <i>Alternate</i> )
Directorate General Quality Assurance, Ministry of Defence, Kanpur	SHRI M. SATYANARAYANA
Federation of Hardware Manufacturing and Traders Welfare Association, Gurgaon	SHRI TAKSHAY BANSAL SHRI NAVEEN HANDA ( <i>Alternate I</i> ) SHRI VIKAS NARWAL ( <i>Alternate II</i> )
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Hawkins Cookers Ltd, Thane	SHRI RAJESH SHARMA SHRI RAVINDRA MALI ( <i>Alternate I</i> ) SHRI SANJAY SASIKUMAR ( <i>Alternate II</i> )
Hindalco Industries Ltd, Sonbhadra, Mumbai	SHRI DEVESH KUMAR SHRI ATUL GUPTA ( <i>Alternate</i> )

<i>Organization</i>	<i>Representative(s)</i>
Indian Stainless Steel Development Association, Gurugram	SHRI ROHIT KUMAR SHRI KARAN KUMAR PAHUJA
Jindal Stainless Ltd, Hisar	SHRI BISWABASU ROY SHRIMATI NISHA GOEL ( <i>Alternate</i> )
Office of Development Commissioner (MSME), New Delhi	SHRI SUVANKAR SANTRA
Pritam International, New Delhi	SHRI RAHUL KHERA SHRI ROHIT KHERA ( <i>Alternate</i> )
Royal Kitchen Appliances Pvt Ltd, Sonipat	SHRI SURESH AGARWAL
Sat Rattan Engineering Works, New Delhi	SHRI G. L. KHERA
Shriram Institute for Industrial Research, New Delhi	SHRI ALOK KUMAR SHRI ANEESH KUMAR ( <i>Alternate I</i> ) SHRI PUNEET KAPOOR ( <i>Alternate II</i> )
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### Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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